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ENGINEERING NEWS-RECORD

NEWS

Volume 123 JULY 13, 1939 Number 2

NOTEBOOK NEWS

Quick Surveys of Construction Events

▶Of chief interest to the construction industry in the President's self-liquidating $2,660,000,000 loan program, which is now before Congress in the form of definite bills, is in the $350,000,000 for non-federal public works and $750,000,000 for toll roads. Details of these items are not yet available, but it is to be assumed that the loans for non-federal public works are planned to continue the PWA program without federal grants.

▶All those who are anxious to see public relief work cut to the minimum needed to carry people actually in need of public assistance can give thanks that there are men like Col. Harrington and Col. Somerville who have the guts to stand out against short-sighted labor leaders in their efforts to get WPA workers to go on strike.

▶Testifying before the "monopoly committee" last week, Thurman Arnold of the Department of Justice proposed to have federal housing loan concessions made to cities where his department had certified the construction industry to be pure and free from practices that add needlessly to construction costs. The purification looks to be a long way off.

▶The Southern Pacific Ry. has inaugurated a public-relations stunt that will give grave concern to the protectors of the sacredness of the title "engineer." For the boys who visit its "Roundhouse" exhibit at the Golden Gate Exposition it has organized a "club of Junior Engineers." The boys are given the "official title of Junior Engineer" upon passing an examination.

Strike Slows Up WPA Construction

Many men from skilled trades leave work in effort to restore high hourly pay rate.

Construction operations of the Works Projects Administration over a large part of the country have been slowed in varying degrees by strikes of organized labor against the new WPA regulations that require all relief labor to work 130 hours a month for the security wage. Since 1935 members of the organized trades have worked only enough hours to earn their monthly check at the prevailing hourly wage rate for their particular trade. In so doing the men sometimes worked as little as 44 hours a month.

No accurate figures are available as to the extent of the strike. The claim of union leaders at New York, where the major strike movement began, that there were 30,000 on strike was denied by Lt. Col. Brehon Somerville, New York WPA Administrator, Monday, who stated that not more than 10,000 were on strike. The total for the nation was estimated by Col. F. C. Harrington, NWPC, at 77,627, many of this number striking for but one day as a protest against the new regulation.

As Colonel F. C. Harrington, National Works Projects Commissioner, has ordered all men dropped from relief rolls who are absent from work more than five days, many workers are expected to go back to work before the deadline. The 21,500 workers returning to work after a 4-day strike on St. Louis and St. Louis county projects is typical of this movement.

A.F.L. unions are chiefly affected as the majority of union men on relief are from the building trades. Regional A.F.L. leaders have been called to Washington to make plans for presentation of their case to Congress.

Times Wide World

HARD-HATTED POLICE KEEP WARRING TUNNEL WORKERS APART

SERIOUS TROUBLE at several shafts on the Delaware River Aqueduct tunnel was averted last week by police forces as members of one union engaged on the tunnel work resisted those of another local of the same international who attempted to claim jurisdiction. Meanwhile, tunnel work on the aqueduct and under East River in New York was shut down. (See next page.)

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Labor Dispute Halts N. Y. Tunnel Work

Workers from Queens Midtown tunnel claim jurisdiction on Delaware Aqueduct

Attempts by one local of the A. F. of L. International Hod Carriers, Building and Common Laborers Union of America to horn in on work held by another local of the same international union has stopped work on the Queens Midtown tunnel in New York City and on several sections of the Delaware River Aqueduct tunnel in Westchester and Putnam counties outside the city. Local 60, claiming jurisdiction in Westchester County and vicinity, signed long-term agreements with all of the contractors working on the lower end of the aqueduct tunnel last year. Local 147, commonly known as the sandhogs' union, is working on the Queens Midtown tunnel under East River, for which the Walsh Const. Co. has the contract, and claims jurisdiction in New York, New Jersey and vicinity.

Picketing on the Aqueduct

Last week members of Local 147 invaded the aqueduct tunnel territory under the excuse that Associated Contractors, Inc., (a group that includes Walsh) contractor at Shafts 17, 18, and 19, was paying "wages 20c. per hr. under prevailing and maintaining hazardous and unsanitary working conditions." The real reason for the invasion, according to reports in New York contracting circles, is that Local 147 sees the end of big tunneling in sight in the city and wants to get a foothold on the long-time aqueduct job. The local struck the Queens tunnel job, shutting it down completely, in order to release men for demonstration purposes at the aqueduct.

Sporadic outbreaks occurred as members of the two locals faced each other at various shafts, but serious trouble was prevented by concentrated forces of local and county police and those of the Board of Water Supply. Work at some of the shafts has stopped completely; at others it is carried on with skeleton or intermittent crews. On July 9 international union officials advised members of Local 60 to go back to work and ignore the threats and pickets of Local 147. By midweek some of the affected shafts were working fairly steady, but the Queens tunnel was still shut down.

Aqueduct contractors affected include Associated Contractors, Inc., at Shafts 17, 18 and 19; Utah Const. Co. at Shafts 11 and 12, Seaboard Const. Co. at Shafts 13 and 14; and Frazier-Davis at Shafts 9 and 10.

Payment for Road Job Withheld in Ohio

At the request of Attorney General Thomas J. Herbert, the state of Ohio is withholding payment of more than $500,000 to a number of "hot-mix" road material companies on state highway construction contracts.

The attorney general based his request on the ground that the Franklin County common pleas court has held that collusion existed between certain highway department employees and the "hot-mix" companies during the administration of former Governor Martin L. Davey. The state auditor, it is said, is not legally bound to withhold the money, as a temporary restraining order prohibiting the payments is being dissolved due to the fact that Mrs. Agnes B. Dickinson, plaintiff in the suits against the "hot-mix" companies was unable to supply additional bond ordered by the court.

The attorney general and the auditor anticipate the road material companies will institute mandamus proceedings to compel the auditor to issue warrants for the payments. In that event the attorney general has advised that such action will be defended by his office and that full and complete judicial consideration of the legality of the contracts and the validity of the claims may be given before any further payment is made.

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Information Leak Denied On Pennsylvania Bidding

Augustine Janeway, executive director of the Pennsylvania General State Authority, has denied knowledge of any leak on pre-bidding information on authority projects, after the PWA ordered withheld a grant for construction of the Pennsylvania State Hospital at Norristown because of alleged irregularities.

PWA contends that McCloskey & Co., of Philadelphia, received pre-bidding information from employees of the state authority which enabled the company to underbid competitors.

British Press Combine photo

ALBERT CANAL BREACH CAUSES EMBANKMENT FAILURE

FOUR WEEKS before the King of Belgium was to open his country's new $75,000,000 Albert Canal, late in June a breach occurred near Hasselt which killed seven people, flooded the surrounding countryside and caused serious subsidence of the banks. Among those killed was the project engineer, who rushed to the site of the failure when he heard of the breach; he was crushed by sliding earth.

In the illustration it can be seen that the breach occurred in the upper left, near one of the locks. The 100-mile canal, which has been under construction for about ten years, connects Liege with Antwerp. It will reduce the waterway distance between Liege and the North Sea by more than 135 miles. The canal is navigable throughout its entire length by ships up to the size of 2,000 tons.

Sheiry Made C.E. Head At Cooper Union

Edward S. Sheiry, for six years head of the civil engineering department in Robert College, Istanbul, Turkey, has been appointed head of the civil engineering department of Cooper Union with the rank of full professor, it has been announced by Edwin S. Burdell, director of Cooper Union. Sheiry, whose appointment is effective Sept. 1, succeeds Prof. Fred E. Foss, who retired in 1938 at the age of 76, after 29 years of service. Ray C. Brumfield was acting head of the department during the past year.

After his graduation from Massachusetts Institute of Technology in 1924 he was made an instructor in civil engineering there. Subsequent service has been at Northeastern University, the University of Minnesota, and at Robert College. He has been a field engineer of construction for Stone & Webster, Inc.; structural designer for the Port of Seattle Authority; structural engineer and estimator for the Charles H. Tompkins Co. of Washington, D. C. and inspector of bridge construction for the Portland (Ore.) Elevator Co.

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Tyler to Go to Vicksburg Early in September

Brig. Gen. Max Tyler, the new president of the Mississippi River Commission, expects to take over his new duties Sept. 1. Gen. Tyler, as Assistant Chief of Engineers, has been in close touch with the work on the Mississippi. He was one of the active proponents of the hydraulic laboratory which later was set up at Vicksburg.

General Tyler did much of the planning for the reconstruction of the damaged section of the Ft. Peck dam. He also had an important part in the construction of the Wilson dam on the Tennessee river and for a time served as chief engineer of the Federal Power Commission.

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Engineering College Formed At Duke University

Establishment of a college of engineering at Duke University (Durham, N. C.) has been authorized by the school's board of trustees. The new college will be headed by Dean William H. Hall, a graduate of Trinity college of the class of 1915.

Although the college of engineering has just been established, the teaching of engineering is not new at Duke. Formal courses in civil and mining engineering were offered as early as 1887, and the departments of civil, electrical and mechanical engineering have been grouped together for several years. The new college has its own campus and an enrollment of some 200 students is expected for the next school year.

SIDEWALK SUPERINTENDENTS

FOLLOWING THE LEAD of contractors on the Bankers Life Building in Des Moines and on new units of New York's Radio City, the Chicago Bridge & Iron Co. provided an observation platform, complete with benches, for the sidewalk superintendents on their million-gallon elevated tank job recently completed in Indianapolis. Engineers on the job admit that there was a feeling among the superintendents that cushions should be supplied on similar accommodations in the future.

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Welland Canal Landslide Does Not Stop Shipping

A landslide in the bank of the Welland Ship Canal, involving movement of about 34,000 cu.yd. of blue clay, occurred July 3. The material slipped into the canal, and although it had to be marked by buoys, shipping was not interfered with.

The slide occurred midway between Port Colborne and Welland, and covered a 500 ft. frontage. C. E. West, superintending engineer of the canal, stated that the "blue clay contains long horizontal seams of greasy lubricating substance on which the whole bank may have slid." Some years ago a slide occurred near the scene of the new movement and a 20 ft. berm was installed. The present slide will be removed by dredging.

Loan Program Goes to Congress

President's plan for loans for public works and other projects takes definite shape

Creation of a revolving federal fund of $2,660,000,000 for loans to cities and states for public works, for loans to railroads for equipment, to farmers and to industry is proposed in legislation introduced into both houses of Congress on July 10. The program is similar to that outlined by the President in a letter to Senator Byrnes on June 22 (*ENR* June 29, p. 867) except that the proposal then made to loan $500,000,000 to foreign governments for purchase here has been eliminated. The authorized capital of the RFC would be increased by $2,700,000,000 to make the loans possible.

The principal items are: non-federal public work, $350,000,000; express toll roads, $750,000,000; railroad equipment, $500,000,000; rural electrification, $460,000,000; farm tenancy loans, $500,000,000; Export-Import Bank, $100,000,000. The funds would be made available over a period of two years for the public-works loans and four years for toll roads.

Loans for public works would be made by the Commissioner of Public Works (not yet appointed) and those for express roads through the Commissioner of Public Roads (the former Chief of the Bureau of Public Roads); both will come under John Carmody, new head of the Federal Works Agency.

Interest rates are set at "highest yield on the longest term direct or indirect obligations of the United States" that are outstanding at the time. At present that would be a little over 2 per cent.

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Flood Weakened Bridge Gives Way Under Freight

A washed-out pier was responsible for the wrecking of a Rock Island Railroad freight train July 4 at a crossing of the Nishnabotna River near Avoca, Iowa.

The engine and ten cars of the 55-car train had crossed the bridge when the flood-weakened pier gave way, dropping a 110 ft. bridge truss into the river. The bridge was 22 ft. above bed.

Six freight cars went into the swollen river, a dozen others were wrecked and about 25 remained standing on the west side of the river. The locomotive turned over but none of the train crew was seriously hurt. One of five transients riding the freight train was missing.

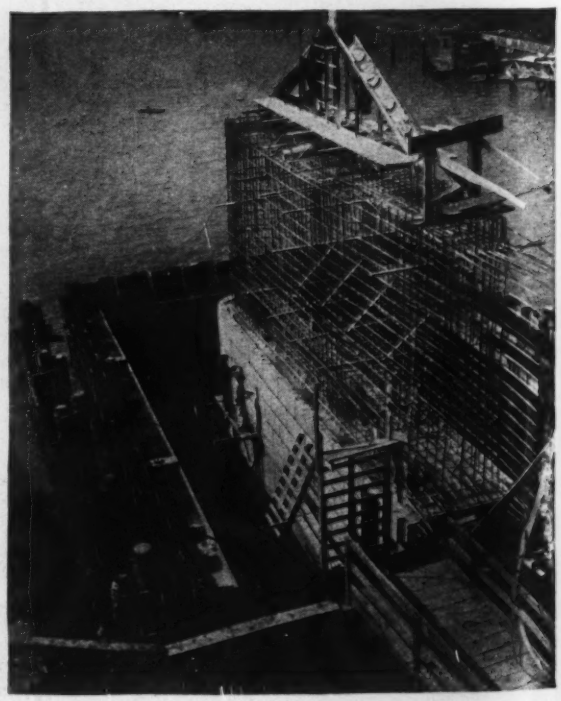
New Bridge for the National Capital

THE ANTIQUATED STEEL TRUSS BRIDGE that carries Pennsylvania Ave., S. E., across the Anacostia River at Washington is being replaced by a continuous deck girder structure built in two stages. This air view shows the south half of the bridge under construction; the north half will be built on the location of the old bridge after traffic has been diverted to the completed roadway. Steel erection follows close behind foundation work.

PENKER CONST. CO., Cincinnati, is building a badly-needed new bridge over the Anacostia River at Pennsylvania Ave., S. E., Washington, for the District Board of Commissioners. The structure, 1,925 ft. long, includes nine 154-ft. deck girder spans, alternating continuous and suspended. Two 28-ft. roadways will be separated by a center curb. Construction is in two stages: first the south half is being built, clear of the old bridge; upon diversion of traffic to this roadway, the second half will be built on the old bridge location.

Construction features include: neat cofferdams of Z-section sheetpiling braced by heavy steel wales; use of a hydraulic spade and underwater jet for cleaning up bottom excavation; setting of granite facing ahead of concrete to serve as forms; stiffening of pier shaft reinforcing by cable clips to support the concrete hopper and spouts; and pumping of all concrete from a central plant on the west shore through a pipeline on the old bridge. Use of a heavy traveler and adjustable falsework is keeping steel erection close behind substructure work.

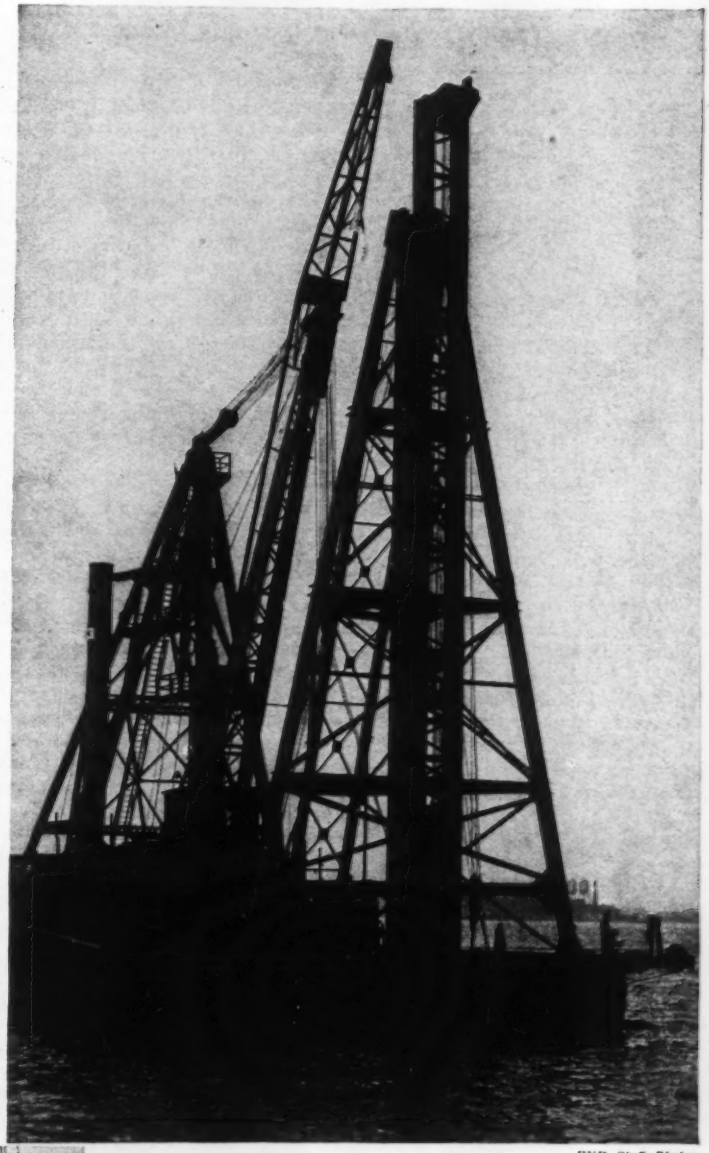
A. B. Greene is resident engineer for the District. Ben Harig is superintendent for Penker. Bethlehem Steel Co. is erecting the steel, G. C. Land, superintendent. Parsons, Klapp, Brinckerhoff & Douglas are consulting engineers.



GRANITE-ENCASED PIERS are built within neat cofferdams of Z-section sheetpiling and steel wales. The facing of Massachusetts granite is set up two courses ahead of the concrete to serve as forms.

Special 16-Ton Hammer Built for Big Piledriver

STEEL H-BEAM PILES up to 175 ft. long and driven under 80 ft. of water for the new Potomac River Bridge at Ludlow Ferry, Md., require special piledriving equipment, so the Merritt-Chapman & Scott Corp., substructure contractor, converted their derrickboat *Chief* into the largest floating piledriver ever built. J. E. Greiner Co., consulting engineers, specified that the steel piles must be driven by a steam hammer having a ram weighing not less than 14,000 lb. delivering 37,500 ft. lb. per blow." Such a hammer was without precedent, but the McKiernan-Terry Corp. designed and built two of them in fast time. The complete hammer weighs 16 tons. A 90-ft. all-welded A-frame tower was built on the front end of the *Chief*. Fixed leads the full height of tower carry inner extensible leads that can be raised 60 ft. above top of tower or lowered 95 ft. below deck. Both sets are pivoted at top of tower for driving batter piles. Outriggers at deck level support cable gear for swinging the leads. A five-drum steam hoist on deck handles the leads, piles, hammer and swinging rig. The derrick boom has been lengthened to 115 ft. for handling piles.



ENR Staff Photos

BUILT to drive some of the longest piles ever called for on a bridge foundation, this is the world's largest floating piledriver. The all-welded tower, carrying fixed outside leads, rises 90 ft. above the deck. Inside extensible leads can be raised 60 ft. above top of tower and lowered 95 ft. below deck. Both sets of leads, pivoted at top of tower, can swing to either side to drive piles on a 4:1 batter.

INSIDE this 16-ton hammer is a 7-ton ram that strikes a blow delivering 37,500 ft. lb. at the rate of 60 blows per min. The hammer is 36 in. square, is 14 ft. from bottom of cap to center of sheaves. The ram, 24 in. square, is attached to a 20-in. piston having a stroke of 32 in. It is a single-acting hammer designed for underwater driving as deep as 80 ft. A 90-hp. boiler delivering steam at 100-lb. pressure to the hammer is required.

OBITUARY

FRANCIS DOWNS, town engineer of West New York, N. J., died July 6 at the age of 52. Downs studied at Niagara College and received a degree from Notre Dame University. He was engaged in mining work in Russia for several years in his early life and during his later life was employed on many CWA and PWA projects.

W. W. ALLINGHAM, for many years in charge of architectural activities for the St. John, N. B. department of public works, died recently.

ROBERT F. BETTIS, engineer in charge of construction of the first seawall in Tampa, Fla., and the first brick pavement in both Tampa and St. Petersburg, died recently in Tampa at the age of 86.

CHARLES G. CROMBIE, retired mechanical engineer of Seattle, Wash., died in a traffic accident June 16 at the age of 74.

CALLOWAY STUART ROBISON, a member of the Seattle, Wash. engineering department for 33 years previous to retiring six years ago, died July 6.

EDWARD T. WILKIE, retired railway engineer and surveyor, died at Toronto July 1 at the age of 80. Wilkie was one of the pioneer engineers in opening up the Canadian west to railways and in 1910 came to Toronto to work for the Toronto Suburban Railway. Leaving that railway he worked with the Canadian National Railways until retiring. He was a past president of the Ontario Land Surveyors Association and a member of the Engineering Institute of Canada.

ARCHIBALD S. MCMILLAN, retired president of the old Edgar Zinc Co., now merged with the American Steel & Wire Co., died July 3 at the age of 59.

CHARLES B. LUCK, superintendent of the engineering department of Mallincrodt Chemical Works, was killed in a hunting accident July 4 near Elsberry, Mo.

COL. WILLIAM J. JUDGE, 59, retired hydraulic and dredging engineer of Cooperstown, N. Y., died June 30. Colonel Judge was a veteran of the Spanish American War and commanded the 303rd Engineers, A.E.F., in France. He supervised construction of portions of the Panama Canal, for a time he was employed in reclamation work in Trinidad for the British Government, and spent a part of the past ten years in Greece as construction manager for the Monks-Ulen Co. of New York.

FRANCIS H. MILLER, president of the Hoosier Engineering Co., died at Columbus, O., July 5 at the age of 47. After graduating from Purdue University, he organized the Hoosier Engineering Co. During the World War he served as major in the engineering corps.

CLAUDE A. COOL, highway maintenance superintendent for five counties in northeastern Iowa, died July 7 at Decorah. He was 52 years old.

CLYDE D. LEWIS, former owner of the Lewis Building Co., Birmingham, died July 2 at Amarillo, Tex., aged 45.

ALLEN M. LEONARD, former building contractor at Birmingham, died July 2 at Opelika, Ala. He was 73 years of age and had retired from business several years ago.

R. E. AHERN, sales manager of the Cleveland Pneumatic Tool Co., died in Birmingham, Ala., June 30 at 41 years of age. He had been associated with the company for 20 years, being district manager at St. Louis from 1919 until 1934 when he became general sales manager.

JESSE C. ALBERGOTTI, 33 chief design engineer in the bridge division of the South Carolina highway department, died at Columbia June 28. He was graduated from Clemson College in 1928.

JAMES WHITELAW, civil engineer in the department of bridges of the Canadian National Railways, died June 28 at St. Lambert, Que. in his 59th year. Educated in Edinburgh, Scotland, he went to Canada 28 years ago to join the staff of the Grand Trunk.

HUGH E. WHITE, SR., prominent architect, died at Gastonia, N. C., June 25 at the age of 70.

HENRY N. BOUCHERLE, 41, secretary of the Scholl-Choffin Co., drowned July 4 in Lake Erie near Mentor, O.

DAVID W. MORROW, 72, retired consulting engineer of Cleveland, died there July 5. After receiving a B.S. degree from the Case School of Applied Science in 1893, he worked as a draftsman with the Variety Iron Works Co. until 1901. The next ten years were spent with the Cleveland Railway Co. He went into private practice in 1911 as a specialist in reinforced concrete. He designed an 8½ acre reservoir for the City of Detroit and numerous waterworks and reservoirs in Ohio.

Heavy Water Flow Persists In Aqueduct Tunnel

Diamond drill borings have revealed that the 63,672 bags of cement grout pumped behind a concrete bulkhead in the south heading of Shaft 19 of New York City's Delaware River Aqueduct tunnel were not sufficient to seal off the water seam. Flooding of the tunnel and measures taken to stop the flow were described in *ENR* June 22, 1939, p. 37. A concrete bulkhead 44 ft. thick was built against the face after a wet seam was struck on May 17; the flow was apparently stopped on June 13 after some 53 carloads of cement had been pumped behind the bulkhead. However, diamond drill borings made since then to explore the ground ahead of the face have all struck water at 165 lb. pressure. In a few cases it has been possible to get the holes through to sound limestone from 100 to 150 ft. ahead of the face. Grouting through the diamond drill holes has been started by the contractor, Associated Contractors, Inc., in a further effort to seal off the water.

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Chicago Sewer Break Blamed on Subway

A 45-ft. break in a 30-in. brick sewer along Chase St., Chicago is blamed by city officials on settlement of earth and pavement resulting from subway tunnels. According to superintendent of sewers, T. D. Garry, the sewer was cracked a month ago and air escaping from the subway tunnel forced sand into the crack, stopping the sewer for 45 ft.

The contractor, Herlihy Mid-Continent Co., maintains however, that the sewer was cracked before subway construction began and that leakage from the sewer caused the original pavement collapse. They point out that the sewer is more than 60 years old.

Two suits, totaling $47,000, have been brought against the contractors, charging damages to foundations and buildings along the route.

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Shasta Diversion Tunnel Goes Into Use

The first Southern Pacific train passed through the newly completed diversion tunnel under the West Shasta Dam abutment June 26. Tracks along the present route, across the west bank of the Sacramento River at the dam site now will be removed and excavation will be started by Pacific Constructors, Inc. on the lower part of the dam site.

WASHINGTON HIGHLIGHTS

Special reports by Paul Wooton

THE SIGNIFICANT FEATURE of the hearing before the Temporary National Economic Committee on the construction situation was the suggestion of Assistant Attorney General Arnold that federal and state housing financing agencies distribute their funds among localities which are first freed from the effect of price fixing combinations through anti-trust prosecutions which the Department of Justice expects to bring later this year. A larger volume of construction which Mr. Arnold believes will result from such coordination of government policies should have the effect, in his opinion, of lowering rather than increasing prices, thus reversing the trend shown by prices in the past on a rising volume.

Henry Bruere, president of the Bowery Savings Bank, New York, told the committee that present federal aids to housing are adequate and that they could not be increased without danger of upsetting our system of private financing.

EFFORTS to secure a favorable report on a bill by Senator James E. Murray of Montana, providing federal aid for payment of compensation in silicosis cases, have been delayed by differences as to the federal agency that should administer it. The Murray bill proposes that the Department of Labor supervise the plan. Some members of the Education and Labor committee think any federal effort to deal with silicosis should be administered by the Public Health Service.

OBJECTION has been raised by the director of the budget to the $50,000,000 reduction in return to the government involved in the bill for revision of the power provisions of the Boulder Canyon Project Act proposed by Colorado River basin states and Los Angeles. Hearings on the measure are being delayed awaiting a formal report from the budget bureau and the Secretary of the Interior.

INDICATIONS are that Congress will pass the O'Mahoney-White bill which sets up a formula for repayment on reclamation projects that responds to current crop conditions. The bill also authorizes the Secretary of the Interior to establish the proportion of the cost that should be allocated for flood control and not collected from the water user. The bill is new on the House calendar.

Wide World Photo

GREGORYVILLE FLOOD DAMAGE

ABOVE IS SHOWN the remains of a church at Gregoryville, Ky., part of the destruction caused by a cloudburst in eastern Kentucky July 5. Major damages occurred in Carter, Rowan and Breathitt counties in the valleys of the Kentucky and Licking rivers with the center Jackson, county seat of Breathitt County.

The Cincinnati weather bureau gave the average rainfall over the area for the 24-hour period including the storm as 2.5 in. with the maximum 3.46 in. at Williamson, W. Va.

Washouts occurred on the Louisville and Nashville and Chesapeake and Ohio railways. In Lawrence county a 38-ft. bridge completed three weeks previously was destroyed. Damage to 15 mi. of state highway No. 15 was extensive. The number of deaths is expected to reach 100.

LOCAL INTERESTS are bringing more and more pressure on government agencies to undertake work by force account. Contractors, they state, have to pay so much in the way of taxes and other costs due to conditions of contracts that costs are higher than those of a government agency that does not have to meet many of these costs. On the current Grand Coulee contract the government will get back no less than $1,500,000 in taxes.

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Loup River Work Damaged by Flood

About $3,000 damage was done to parts of the Loup River irrigation project June 25 by floods from rains which reached a peak of 6 in. west of Burwell, Neb.

The high water tore out 500 ft. of the dike at the Burwell dam and also tore several holes in the banks of the project's canals. The Taylor-Ord canal and the Ord-North Loup canal were back in operation by the first of July and the Burwell-Sumter canal is now in operation. Total loss to the district is not large.

Westchester Parkway Toll Proposed to Commission

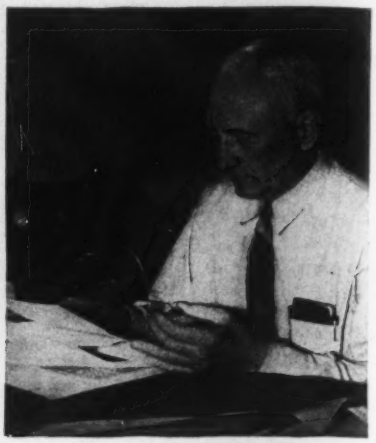
Aiming to remove the burden of extra taxation upon the residents of Westchester County of New York in providing a parkway system for upstate and New England motorists traveling to and from New York City, the Westchester County Park Commission is considering plans for collection of tolls on the Hutchinson River Parkway, according to Gerard Swope, acting chairman of the commission and president of the General Electric Co. Westchester residents would be toll-exempt or allowed low commuting rates.

Swope pointed out that the commission's 1938 revenues were $1,170,000 with a net after deducting operating expenses of $435,000 which were more than absorbed in maintenance, lighting and policing the parks and parkways. This required $271,000 to be added by Westchester County to the commission's funds and allowed nothing for interest and amortization of bonds.

Toll collection began June 21 on Connecticut's Merritt Parkway which connects the Hutchinson River Parkway with New England highways.

From a cast-steel seat on top of the Deer Isle-Sedgwick suspension bridge, **Reuben Boblow** surveys the rock-bound coast of Maine. He was bridge engineer for Robinson & Steinman on the construction of the nation's newest suspension bridge, dedicated June 19. Boblow gets the tough assignments: last summer he was on the Thousand Islands bridges over the St. Lawrence River; this spring and summer at Deer Isle in the Maine vacationland.

When in doubt, look at the specs. That is what **C. E. Crownover** (left) construction engineer for the U. S. Bureau of Reclamation at Yakima, Wash., and **C. E. Klinginsmith,** resident engineer for the U. S. B. R. at the Roza diversion dam, are doing. Besides the dam, Crownover has supervision of construction of 95 miles of canal and 5 miles of tunnel on the Yakima-Roza irrigation project, about half completed at present.



L. F. Harza, president of the Harza Engineering Company, engineer for the $40,300,000 Santee-Cooper project which is being built for the South Carolina Public Service Authority, looks over some specifications in his office in Charleston, South Carolina. The Santee-Cooper job is Harza's second public power project, his company having completed the engineering work for the Loup River public power district in Nebraska.

MEN AT WORK

Veteran city engineer of Newark, Ohio, **Charles H. Wells,** is this year's president of the Central Ohio Society of Professional Engineers, an organization drawing its membership from Knox, Licking and Fairfield counties. Wells, who has served his city for 36 years, is taking special pride in the development of skilled construction workers from the WPA labor on public works jobs in his municipality.

Scotland G. Highland, for 27 years general manager of the Clarksburg, W. Va. Water Board, saw a dream come true this year when he turned the valves that put into operation a water softening plant for the city. This half million dollar improvement, including additional filters, was financed from current funds without federal or other aid. Another example of sound public works management.

Harry W. Jenks, consulting engineer of Berkeley, Calif. who is building biofiltration sewage disposal plants on the West Coast, took time out recently to visit the *ENR* offices while in New York. A description of his latest plant, which departs from conventional practice both in architectural design and treatment method, was published in the June 22 number of *Engineering News-Record* on page 51.

CONTRACTS AND CAPITAL

ENGINEERING construction totals $58,003,000 this week, a 13 per cent gain over last year and 55 per cent over last week.

The cumulative total for the year is $1,652,776,000, 19½ per cent greater for the first 28 weeks than last year's engineering construction awards.

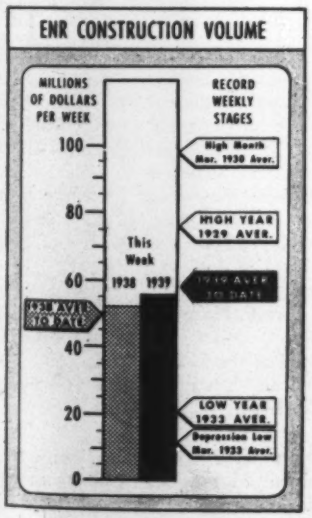
Private awards total $17,127,000, under this week last year by 12 per cent but ahead of last week by 123 per cent. This week's volume is the highest in 5 weeks.

Public construction at $40,876,000 is 29 per cent higher than the corresponding week last year and 36 per cent higher than last week. The gain over last week is in state and municipal awards since federal volume, while 92 per cent higher than last year is 3 per cent below last week.

The classes of construction which have registered gains this week over last are sewerage, bridges, industrial, commercial and public buildings and highways. All classes except commercial buildings, highways and unclassified scored gains over last year. The volume of awards this week by classes is: waterworks, $1,192,000; sewerage, $4,462,000; bridges, $2,605,000; streets and roads, $16,000,000; earthwork, drainage, $4,652,000; public buildings, $9,589,000; commercial buildings, $8,499,000; industrial buildings, $7,385,000; and unclassified, $2,619,000.

New capital for construction jumps to $1,653,863,000 for the 28 weeks with the addition of $509,100,000 in federal appropriations for federal construction. This total is made up of funds from Interior Department Appropriation Act, $65,223,000; Treasury Post Office Supply Bill, $45,800,000; War Department, non-military, $277,800,000; Naval appropriations, $25,000,000; War Department, military, $11,589,709; Agricultural appropriations, $21,044,000; Independent Offices Act, $63,643,000. In addition to this amount, $96,000,000 is included in the latter Act for vessels to be built under Maritime Commission which is not included in the *Engineering News-Record* new capital for construction. Also $40,000,000, for REA in this appropriation, is included in this week's total new capital for construction but under corporate loans since this money is a loan and is not for direct federal construction. Not yet included in the new capital total are funds to become available through the Relief Act.

State and municipal bond sales for construction for this week total $2,264,000 and corporate security sales, $3,550,000. Cumulative new capital for the 28 weeks of this year lags 33 per cent behind last year's volume. FHA Mortgages, however, show a 28 per cent gain.



CONTRACTS
(Thousands of dollars)

	Week Ending July 14 1938	July 6 1939	July 13 1939
Federal	$4,063	$8,070	$7,811
State & Municipal	27,629	22,007	33,065
Total public	$31,692	$30,077	$40,876
Total private	19,569	7,472	17,127
TOTALS	$51,260	$37,549	$58,003
Cumulative 1939 (28 weeks)			$1,652,776
1938 (28 weeks)			$1,384,513

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1938 28 Wk	1939 27 Wk.
NON-FEDERAL	$1,200,666	$833,336
Corporate securities	191,938	134,305
State & Mun. bonds	355,588	331,361
R.E.A. loans	11,629	83,732
R.F.C. loans	64,891	2,519
P.W.A. allotments	264,050	.....
U.S.H.A. loans	111,070	146,419
Federal Aid—Highway	201,500	135,000
FEDERAL	1,122,805	820,527
TOTAL CAPITAL	$2,323,471	$1,653,863

FHA MORTGAGES

	Week Ending July 9 1938	July 1 1939	July 8 1939
Selected for appraisal	$18,927	$22,071	$15,300*
Cumulative 1939 (27 weeks)			$616,642*
1938 (28 weeks)			$486,101

*Subject to revision.

ENR INDEX NUMBERS

Index Base		1913	1926
Construction Cost	July	234.94	112.94
Building Cost	June	235.02	112.97
Volume	June	193	84

Pennsylvania's Biggest Cut Planned for Turnpike

Clear Ridge Mountain, on the Pennsylvania Turnpike route near Everett, Bedford County, will be crossed with the aid of a huge open cut instead of a tunnel. The cut, 150 ft. deep, 380 ft. wide and 2,600 ft. long, will be the biggest in Pennsylvania highway building history; movement of more than 1,115,000 cu.yd. of earth and rock is contemplated. Bids will be opened July 19.

According to original plans, a new tunnel 1,423 ft. long would have been built, making the total number of tunnels in the 160-mile super-highway between Harrisburg and Pittsburgh eight. Six of the seven remaining bores were half finished by the builders of the old South Penn Railroad more than 50 years ago. Workmen now are completing them, and drilling a new tunnel through the Allegheny Mountains in Somerset and Bedford counties.

• • •

Ohio Hospital Act Declared Invalid

Issuance of $10,000,000 in bonds to pay for one or two state hospitals and additions to present state hospitals has been declared unconstitutional by the Ohio Supreme Court. The decision was based on the ground that the state cannot exceed its present bonded indebtedness.

The bill enacted by the legislature provided that the bonds should be retired over a period of years through payments received from the various counties in the state for care of their patients in hospitals for the insane, institutions for the feeble minded and in the epileptic hospital. W. S. Konold, chairman of the Ohio Building Authority, believes that it may still be possible to finance the building; he adds that the state is badly in need of these facilities.

• • •

California Considers Superhighway Agencies

Two measures which will authorize the formation of metropolitan transit districts, similar to the Metropolitan Water District of Southern California, have been passed by the California state legislature. Under these acts districts will be authorized to study the traffic situation in relation to all phases of transportation and to prepare a plan of construction for the relief of traffic congestion.

MEN AND JOBS

JOHN S. DODDS and L. M. MARTIN have been reappointed to the Iowa Board of Engineering Examiners, and HOWARD R. GREEN has been appointed to the board to succeed CLARE H. CURRIE. Dodds is a professor of civil engineering at Iowa State College and Martin is with the state highway commission. Green and Currie are consulting engineers.

PERRY T. NAYLOR, formerly Hastings, Nebr. city engineer, has been appointed to the engineering staff of the state board of control.

GEORGE E. LOMMELL of the civil engineering department at Purdue University has been appointed chairman of the Indiana State Planning Board. He succeeds Virgil M. Simmons.

CHARLES G. BROWN, who in 1926 was assistant master mechanic for the Pennsylvania Railroad Co., has been named safety engineer for the Pennsylvania state department of highways.

ELMER K. NELSON, former city engineer at Laramie, Wyo., has been made an engineer for the state of Wyoming in the tri-state North Platte river water suit.

FULTON D. BELLAMY, former Wyoming deputy state engineer has been appointed director of operations of the Wyoming Works Progress Administration to succeed Frank M. Strong.

WILLIAM FLEMING is manager of a new Kansas City, Mo. branch of the Cardiff Gypsum Co. of Fort Dodge, Iowa.

GEORGE A. RHOADS of Norristown, Pa., has been appointed hydraulic engineer for the Pennsylvania department of forests and waters.

MATTHEW E. CARSON has been named steam engineer at the Steelton plant of the Bethlehem Steel Co.

ABEL WOLMAN and W. WATTERS PAGON, prominent Baltimore engineers, and William D. Lamdin, an architect, have been appointed members of the new Baltimore City Plan Commission, authorized by the voters in a recent election. Wolman is head of the State Planning Commission and also is a member of the faculty of Johns Hopkins University. Pagon is a consulting engineer. JOHN D. STEELE is chairman of the new commission.

AFTER FIVE years with the army engineers on the construction of Fort Peck Dam, CAPT. C. H. CHORPENING has been transferred to Fort Leavenworth, Kansas.

H. F. MACLEOD, engineer at the University of British Columbia, has been made a technical adviser to the British Columbia Utilities Commission.

J. A. MCPHAIL, a professor of general engineering at Queen's University for 35 years, recently was awarded the Montreal medal which is given annually by the Montreal branch of the Queen's University Alumni Association.

AFTER COMPLETING almost half a century with the Delaware & Hudson Railroad, JAMES MACGREGOR MACMARTIN, chief engineer, has retired. A graduate of Rensselaer Polytechnic Institute, he joined the railroad as a draftsman in 1890.

ROBERT F. SMITH has been elected chairman of the Dade County, Fla., planning board, succeeding GEORGE E. MERRICK, resigned.

THOMAS T. IRVING, chief engineer of the Canadian National Railways, whose railroad career started more than 40 years ago, has retired. He will be succeeded by BARTON WHEELWRIGHT, regional engineer of maintenance of way. Irving was graduated from McGill University in 1898, and in the same year he became assistant to the resident engineer of the old Grand Trunk System in Montreal. Wheelwright entered the service of the Grand Trunk Railway as a draftsman in 1911.

H. R. LANGFORD has joined the tractor equipment division staff of the Bucyrus Erie Co., South Milwaukee, Wis.

MEETINGS

NATIONAL COUNTY OFFICERS ASSOCIATION, annual convention, Ogden, Utah, July 17–19.

AMERICAN SOCIETY OF CIVIL ENGINEERS, annual convention, San Francisco, July 26-28.

FIFTH International Conference on Timber Utilization, Zurich, Switzerland, Aug. 29–31.

NATIONAL COUNCIL OF STATE BOARDS OF ENGINEERING EXAMINERS, annual convention, Hotel St. Francis, San Francisco, July 26-29.

REGIONAL AND LOCAL

NEW YORK STATE COUNTY HIGHWAY SUPERINTENDENTS ASSOCIATION, Lido Club, Long Beach, L. I., N. Y., July 19-21.

ASSOCIATED GENERAL CONTRACTORS, North and South Carolina branches, summer convention, Myrtle Beach, S. C., July 21-22.

CONNECTICUT SOCIETY OF CIVIL ENGINEERS, summer meeting, Block Island and Narragansett Bay, R. I., July 27.

NORTH CAROLINA SOCIETY OF ENGINEERS, summer convention, Asheville, N. C., Aug. 4–5.

MINNESOTA Section, A.W.W.A., Duluth, Aug. 24–25.

NEW ENGLAND WATER WORKS ASSOCIATION, annual convention, Hotel Windsor, Montreal, Sept. 12-15.

SOUTH DAKOTA WATER AND SEWAGE WORKS CONFERENCE, fifth annual meeting, Rapid City, Sept. 14-15.

ELECTIONS AND ACTIVITIES

THE PENNSYLVANIA Water Works Operators' Association has elected C. J. Bruce of Cumberland, Md. president; L. S. Morgan, Greensburg, first vice president; Harry J. Jrum, Allentown, second vice president; and I. M. Glace, Harrisburg, secretary-treasurer.

THE SOUTHEASTERN MINNESOTA Society of Professional Engineers was formed recently. Officers are N. D. Adams, president; Mark Brataas, vice-president; George Meskal, treasurer; L. M. Feller and E. W. Kreuger, counsel.

WARREN H. MCBRYDE, San Francisco consulting engineer, is the official nominee for presidency of the American Society of Mechanical Engineers. Vice presidential nominees include Kenneth H. Condit, New York; Francis Hodgkinson, New York; J. C. Hunsaker, Cambridge, Mass.; K. M. Irwin, Philadelphia.

HARRY F. HARRIS, Mercer County engineer, Trenton, N. J., has been appointed to the board of directors of the American Road Builders Association for 1939–40.

ELLIS W. PARKER has been elected president of the Utah Society of Professional Engineers.

CONTRACT UNIT PRICES

What contractors are bidding on different kinds of construction work

HIGHWAYS, VERMONT

OWNER: Vermont State Highway Department, H. E. Sargent, Chief Engineer, Montpelier, Vt.; W. V. Kallio, Readsboro, Vt., engineer.

PROJECT: Grading, base, drainage and surfacing Whitingham-Readsboro Road, beginning 2,000 ft. west of Whitingham-Readsboro Town Line and extending to steel bridge over Deerfield River. Crushed stone mixed-in-place surface course with cut-back asphalt and prime coat of refined tar.

CONDITIONS: Contract awarded to low bidder June 9, to be completed by October 15, 1939. Material to be supplied by contractor. Rail and highway transportation available. Wage rates on project are: Skilled labor, 60c. per hr.; semi-skilled, 45c. per hr.; and common, 40c. per hr.

BIDS: Five bids were received on May 26, ranging from the contract low of $34,443 to $45,400.

LOW BIDDERS:

1. The Lane Constr. Corp., Meriden, Conn. (contract) $34,443
2. A. J. Maxymillian, Inc., North Adams, Mass... 36,592
3. Samuel B. Easton, Albany, N. Y..... 39,948

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Solid rock excav	3,300 c. y.	$2.00	$1.35	$2.00
2. Common excav	7,900 c. y.	.40	.40	.38
3. Borrow	37,900 c. y.	.25	.375	.38
4. Trench excav., earth	475 c. y.	1.50	1.10	1.00
5. Trench excav., rock	200 c. y.	3.50	2.00	4.00
6. Patrol maintenance	3 days	15.00	10.00	25.00
7. Sub-base, gravel	5,625 c. y.	.55	.70	.70
8. Cr. stone, MIP surf. crse	540 c. y.	5.00	3.00	4.00
9. Refined tar	2,570 gal.	.14	.15	.15
10. Cutback asphalt	10,345 gal.	.10	.13	.13
11. Cl. A. conc	25 c. y.	25.00	20.00	20.00
12. Reinf	2,010 lb.	.05	.04	.06
13. Cement rubble masonry	70 c. y.	8.00	9.00	10.00
14. Plain rubble paving	20 c. y.	5.00	5.00	5.00
15. 12-in. C. I. pipe	60 l. f.	1.75	2.44	1.50
16. 18-in. C. I. pipe	198 l. f.	2.75	4.34	2.50
17. 24-in. C. I. pipe	66 l. f.	6.00	6.86	5.00
18. 12-in. Corr. galv. metal pipe, AC.	24 l. f.	1.50	1.37	1.50
19. 15-in. Corr. galv. metal pipe, AC.	22 l. f.	1.75	1.67	1.75
20. 18-in. Corr. galv. metal pipe, AC.	200 l. f.	2.00	1.97	2.25
21. 24-in. Corr. galv. metal pipe, AC.	48 l. f.	3.00	3.16	3.25
22. Relay pipe culv	40 l. f.	.50	.60	.50
23. Remove pres. superstruct	L. S.	50.00	105.00	100.00
24. Std. Und. with 6-in. P.C.G.M.P., AC	900 l. f.	1.00	.90	1.25
25. Cable guard rail	3,440 l. f.	.50	.45	.50
26. Anchors, cable guard rail	24 ea.	12.00	8.50	10.00
27. Guide posts	8 ea.	2.00	2.00	2.00
28. Erection of markers	1 ea.	15.00	2.50	15.00
29. Boundary markers	20 ea.	5.00	4.00	5.00
30. Drop inlet grates	1 ea.	10.00	7.00	20.00
31. Corr. galv. metal, D.I., A.C. with grates	2 ea.	35.00	42.00	35.00
32. Creo. timber curb	1,296 l. f.	.25	.20	.25

SEWERS, OHIO

OWNER: City of Lancaster, Ohio, A. F. Raab, Director Public Service; Burgess & Niple, Columbus, engineers.

PROJECT: Construction of sewers in various streets in Lancaster, Contract G.

CONDITIONS: Materials to be furnished by contractor. Project must be finished in 150 calendar days. Labor rates are: $1.25 to $1.50 per hr. for skilled labor; 80c. to $1.00 per hr. for semi-skilled; and 65 to 70c. per hr. for common.

BIDS: Four bids received May 24, 1939, ranging from the contract low of $61,511 to the high of $74,239. Contract awarded to low bidder.

LOW BIDDERS:

1. H. E. Miller, Columbus Ohio (contract)..... $61,511
2. Thompson-Conie Co., Columbus, Ohio..... 63,562
3. Kassouf Co., Cleveland, Ohio..... 64,320

EAST SIDE STORM RELIEF SEWER

Item	Quan.	Unit Prices (1)	(2)	(3)
1. 36-in. sew. pipe, under 6 ft. cut	556 l. f.	$4.85	$5.75	$5.50
2. 36-in. sew. pipe, 6–10 ft. cut	61 l. f.	6.40	6.25	6.50
3. 36-in. sew. pipe, 10–12 ft. cut	160 l. f.	6.60	7.00	7.10
4. 36-in. sew. pipe, 12–14 ft. cut	190 l. f.	7.60	8.80	8.50
5. 36-in. sew. pipe, 14–16 ft. cut	538 l. f.	8.70	8.80	9.00
6. 36-in. sew. pipe, 16–18 ft. cut	346 l. f.	9.70	8.80	9.50
7. 30-in. sew. pipe, 6– 8 ft. cut	77 l. f.	4.25	4.50	4.50
8. 30-in. sew. pipe, 8–10 ft. cut	38 l. f.	4.75	4.90	4.50
9. 30-in. sew. pipe, 10–12 ft. cut	212 l. f.	5.50	5.30	5.50
10. 30-in. sew. pipe, 12–14 ft. cut	44 l. f.	6.25	5.70	6.90
11. 24-in. sew. pipe, under 6 ft. cut	339 l. f.	2.90	3.30	3.45
12. 24-in. sew. pipe, 6–8 ft. cut	172 l. f.	3.30	3.60	3.65
13. 24-in. sew. pipe, 8–10 ft. cut	178 l. f.	3.80	4.20	3.85
14. 24-in. sew. pipe, 10–12 ft. cut	90 l. f.	4.25	4.50	4.10
15. 24-in. sew. pipe, 12–14 ft. cut	20 l. f.	5.00	5.00	5.10
16. 24-in. culvert, under 6 ft. cut	352 l. f.	3.30	4.00	3.65
17. 15-in. leads and conn	38 l. f.	2.20	2.25	2.00
18. 12-in. leads and conn	356 l. f.	1.90	2.00	1.70
19. Std. manholes, under 6 ft. deep	3 ea.	60.00	60.00	60.00
20. Std. manholes, 6–8 ft. deep	1 ea.	75.00	80.00	70.00
21. Std. manholes, 8–10 ft. deep	1 ea.	95.00	100.00	95.00
22. Std. manholes, 10–12 ft. deep	1 ea.	120.00	120.00	110.00
23. Std. manholes, 12–14 ft. deep	1 ea.	150.00	140.00	125.00
24. Std. manholes, 14–16 ft. deep	2 ea.	175.00	160.00	145.00
25. Std. manholes, 16–18 ft. deep	1 ea.	200.00	180.00	170.00
26. Std. inlet M.H. under 6 ft. deep	1 ea.	70.00	70.00	62.00
27. Std. inlet	13 ea.	55.00	60.00	50.00
28. Spec. inlet, M.H. No. 11	1 ea.	150.00	125.00	100.00
29. Spec. headwall and endwks	1 ea.	200.00	125.00	80.00
30. Replac. drain and sew	10 ea.	3.50	5.00	5.00
31. Replac. curb and gutter	20 l. f.	1.50	1.25	1.60
32. Replac. brick on conc. pavmt	194 s. y.	3.50	3.50	3.25

ROLLING MILL ADDITION STORM RELIEF SEWER

1. 48-in. culv. pipe, und. 6 ft. cut	584 l. f.	7.05	10.25	9.50
2. 48-in. culv. pipe, 6–8 ft. cut	232 l. f.	7.45	10.50	11.00
3. Std. manholes und. 6 ft. deep	2 ea.	60.00	70.00	60.00
4. Spec. headwall	1 ea.	175.00	125.00	90.00
5. Drain and sew. replac	14 ea.	3.00	5.00	5.00
6. Conc. pavmt. replac	23 s. y.	2.50	2.50	2.60

UTICA PARK STORM SEWER

1. 42-in. sew. pipe, under 6 ft. cut	350 l. f.	5.50	7.25	6.20
2. Std. manholes, under 6 ft. deep	1 ea.	65.00	70.00	60.05
3. Spec. headwall and endwks	1 ea.	180.00	125.00	75.00

SPECIAL INLET-MANHOLE IN ALLEY SOUTH OF MAIN STREET

1. Spec. inlet manhole, complete	1 ea.	1,063.00	1,500.00	925.00

FETTERS RUN SANITARY INTERCEPTOR

1. 10-in. sew. pipe, under 6 ft. cut	62 l. f.	1.00	1.30	1.60
2. 10-in. sew. pipe, 6–8 ft. deep	326 l. f.	1.30	1.40	1.70
3. 10-in. sew. pipe, 8–10 ft. deep	774 l. f.	1.60	1.55	1.80
4. 10-in. sew. pipe, 10–12 ft. deep	296 l. f.	2.00	1.75	2.00
5. 10-in. sew. pipe, 12–14 ft. deep	152 l. f.	2.45	1.90	3.50
6. 10-in. sew. pipe, 14–16 ft. deep	42 l. f.	2.80	2.30	3.50
7. 10-in. sew. pipe, 16–18 ft. deep	36 l. f.	3.40	3.50	4.75
8. 10-in. sew. pipe 18–20 ft. deep	34 l. f.	4.15	3.50	5.25
9. 10-in. sew. pipe 20–22 ft. deep	36 l. f.	4.85	3.50	6.00
10. 10-in. sew. pipe 22–24 ft. deep	36 l. f.	5.60	6.00	7.00
11. 10-in. sew. pipe 24–26 ft. deep	16 l. f.	6.50	6.00	8.00
12. Std. manholes, 6–8 ft. deep	1 ea.	75.00	80.00	70.00
13. Std. manholes, 8–10 ft. deep	3 ea.	95.00	100.00	95.00
14. Std. manholes, 22–24 ft. deep	1 ea.	325.00	240.00	200.00
15. 10 x 6-in. wyes	46 ea.	1.60	1.50	1.45
16. Spec. manhole, No. 5	1 ea.	1,003.00	975.00	1,050.00

ROSE BANK—REESE SANITARY INTERCEPTOR

1. 8-in. sew. pipe, under 6 ft. cut	1,261 l. f.	.85	1.10	1.25
2. 8-in. sew. pipe, 6–8 ft. cut	318 l. f.	1.10	1.20	1.40
3. 8-in. sew. pipe, 8–10 ft. cut	226 l. f.	1.35	1.30	1.55
4. 8-in. sew. pipe, 10–12 ft. cut	14 l. f.	1.80	1.50	1.90
5. 8-in. sew. pipe, 12–14 ft. cut	8 l. f.	2.00	1.80	2.00
6. Std. manholes, under 6 ft. deep	3 ea.	60.00	70.00	60.00
7. Std. manholes, 6–8 ft. deep	3 ea.	80.00	80.00	70.00
8. Std. manholes, 8–10 ft. deep	2 ea.	95.00	100.00	95.00
9. 42-in. corr. culv. pipe	56 l. f.	11.00	15.00	17.00
10. Ejector station	1 ea.	3,927.60	2,300.00	2,400.00

ARNOLD STREET STORM RELIEF SEWER

1. 15-in. sew. pipe, 6–8 ft. cut	134 l. f.	2.25	2.25	2.25
2. 15-in. sew. pipe, 8–10 ft. cut	376 l. f.	2.75	2.40	2.50
3. 12-in. leads and conn	26 l. f.	2.50	2.25	2.00
4. Std. manholes, 6– 8 ft. deep	1 ea.	90.00	80.00	70.00
5. Std. manholes, 8–10 ft. deep	1 ea.	115.00	100.00	95.00
6. Drain and sew. replacement	10 ea.	3.00	5.00	5.00
7. Brick on grav. pavmt. replac	193 s. y.	2.50	1.50	1.40

(Contract Unit Prices continued on page 13)

CONSTRUCTION REPORTS

Compiled by BUSINESS NEWS DEPARTMENT
Engineering News-Record, 330 W. 42nd St., New York
ELSIE EAVES, MANAGER
(Daily service also available—Write for details)

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

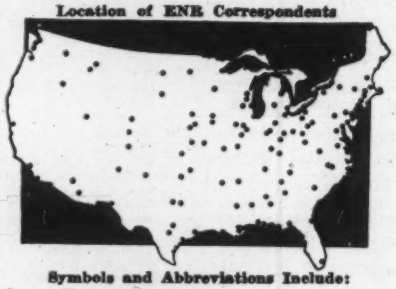
Classes of Construction
(Named in order of Listing)

Water Supply	Unclassified
Sewers, Waste Disposal	Materials, Equipment
Bridges, Grade Cross'gs	Public Buildings
Streets & Roads	Commercial Buildings
Earthwork, Waterways	Industrial Buildings

Stages Reported

PROPOSED: (except Streets & Roads);
BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR);
LOW BIDDERS ($500,000 projects and over);
CONTRACTS AWARDED

Location of ENR Correspondents



Symbols and Abbreviations Include:

† Federal Government
★ Project of $500,000 or over
ENR Engineering News-Record
CD McGraw-Hill Construction Daily

WATER SUPPLY

BIDS ASKED

Bids Asked July 20

Neb., Rushville—WW imprv. $15,848. H. H. Henningson, 730 Union State Bank Bldg., Omaha, engrs.

Bids Asked July 24

Calif., Los Angeles — Metropolitan Water Dist., furnishing, erecting steel water tank at water softening plant in San Dimas, Spec. 310. Over $15,000. F. E. Weymouth, 306 W. 8 St., engr.

Bids Asked July 26

Calif., San Francisco — Public Utilities Comm., City Hall, laying 6 and 8 in. c.i. watermains, Delta and Day Sts. City furnishes pipe and fittings.

Bids Asked About September 1

★**Kan., Wichita**—Imprv. water supply sys. $2,345,000. Black & Veatch, 4706 Bway., Kansas City, Mo., engrs. CD 7/5.

CONTRACTS AWARDED

Calif., Calistoga—Municipal water supply storage dam on Kimball Creek, to Valley Constr. Co., P. O. Box 715, Banning, **$51,119.** Bids 6/30. CD 6/12—ENR 6/15.

D. C., Wash.—Dist. Comrs., District Bldg., 30 in. drain and 48 in. water main piping, U. S. Soldiers' Home, to A. S. Wikstrom, E. Main St., Bound Brook, N. J. **$28,083.** Bids 6/20, awarded 6/27.

Ga., Alto—State Dpt. P. Health, c/o Dr. T. F. Abercrombie, Atlanta, elevated tank, to R. D. Cole Mfg. Co., Newman, **$10,860. PWA.** Bids 6/26, awarded 6/28. CD 6/15.

Ga., Lincolnton—WW imprvs., to C. H. Cook Co., Inc., Buena Vista, **$18,000.** Est. $30,000. Bids 6/30. CD 8/3—ENR 8/11.

Ga., Roberta—WW imprv., to Schley Gordy, 1510 Hilton Ave., Columbus, **$16,000.** Est. $30,000. J. B. McCrary Co., 22 Marietta St. Bldg., Atlanta, engrs. Bids 6/29.

†Ill., Danville — Veterans Administration, Arlington Bldg., Wash., D. C., steel water tank, to Chicago Bridge & Iron Co., 1700 Walnut St., Phila., Pa. **$19,280.** Awarded 6/27.

†Ia., Knoxville — Veterans' Administration, Arlington Bldg., Wash., D. C., steel tank and water tower at hospital, to Pittsburgh-Des Moines Steel Co., 1015 Tuttle St., Des Moines, **$15,680.** Bids 6/13. CD 5/22—ENR 5/25.

Kan., Kansas City—Installing watermains and refrigeration lines in connection with Food Terminal Project, to J. F. Prichard, Dwight Bldg., Kansas City, Mo., **$49,961.** Est. $75,000. Bids 6/30, awarded 7/3.

Mass., Housatonic—Housatonic Water Co., Housatonic slow sand water filtration plant, earth and concrete work, to L. D. Phillips Constr. Co., 10 Main St., Westfield, **$19,390.** Bids 6/23. CD 6/8—ENR 6/15.

Mont., Whitefish — Imprv. water supply. **WPA. $18,769.**

N. C., Hillsboro—Water and sewer mains. **WPA. $21,359.** B. G. Johnson, mayor.

N. C., Raleigh—G. H. Andrews, mayor, and Commissioners,. Sects. 2 and 5, filter plant building, filters, basins, piping, filter plant equip., pump and electrical equip., to A. H. Guion & Co., Kinney Bldg., Charlotte, **$428,708*****chain link fence, to Anchor Post & Fence Co., Eastern Ave. and Kane St., Baltimore, Md., **$2,960*****plumbing, heating, to Bieman & Rowell, 401 W. Martin St., Raleigh, **$2,575** and **$9,780** respectively *** relocating road, grading, to F. D. Cline, Fairview Rd., **$16,741.** Grand total $460,764. Est. over $500,000. **PWA.** Bids 6/28. CD 6/14—ENR 6/22.

N. D., Fessenden—Pump and Pump house, to J. A. Shaw Constr. Co., Fargo, **$3,120.** Bids 6/1. CD 5/23—ENR 5/25.

N. D., Pembina—Imprv. water distr. sys., **WPA. $16,642.**

O., Conneaut—C. i. watermain in Chestnut St. from Jackson to Madison St. replacing present 6 in line, own forces. Over **$15,000.** L. Harvey, supt. Waterworks.

O., Tiffin—Ohio Cities Water Co., 8 and 10 in. watermain exten. in Cottage Park, Walnut, Hunter, Hall and Huss Sts., day labor, **$40,000.** C. H. Wetter, supt. CD 3/29—ENR 4/13.

Pa., Topton—Imprv. watershed, grubbing, clearing, etc., own forces. Over **$15,000.** W. B. Herbein, Boro Hall, burgess in charge. CD 6/14—ENR 6/22.

R. I., North Kingston — H. Kendall, chn. water comrs., water sys., pipe lines, etc. Contr. 2, to A. E. Bragger Constr. Co., Greenwood Ave., Greenwood, **$142,061.** Bids 6/23. CD 6/15—ENR 6/8.

†Tex., Brady — Dpt. Agriculture Soil Conservation Service, Wash., D. C., water facilities project, repairing old wells, drilling new water wells, repairing windmills, towers, new overhead water storage tanks, earth reservoirs, for irrigation purposes, irrigation units, ditching, embankments, day labor. **$250,000** or more.

Utah, Glinas District—Uintah Co., water sys., **WPA. $11,520.** L. P. Christensen, Vernal, Co. surv.

Va., LaCrosse—Contr. 3, water pump and distr. sys., to Hughes & Keegan, Inc., 3002 Rosewood Ave., Richmond, **$19,240. PWA.** Bids 5/16, awarded 5/22. CD 5/4—ENR 5/11.

Wash., Seattle—B. P. Wks., c.i. watermains, Warren Ave., et al., to Argentieri & Colarossi 1819 Weller St., **$128,809.** Est. $128,674. Bids 6/22. CD 6/13—ENR 6/15.

Wis., Dorchester—WW sys. **WPA. $50,000.** CD 4/19—ENR 4/27.

Wis., Milwaukee—Laying water, sewers and gas service connections N. 78 St. and sewers in Mt. Vernon Ave., to Wisconsin Sewer & Constr. Co., 3650 N. 26 St., **$9,224** and **$3,528** respectively***N. 45 St., to T. G. Holton & Co., 811 S. 32 St., **$5,243*****N. 27 St. to Wenzel & Henoch Co., 1524 N. 27 St., **$1,086.** Grand total $21,081.

Que., Montreal—Watermains and services, day labor. **$250,000** voted. J. A. Jette, City Hall, engr. CD 4/7—ENR 4/13.

Sask., Saskatoon — Water mains, various streets, day labor. **$40,000** voted. G. D. Archibald, City Hall, engr.

SEWERS, WASTE DISPOSAL

PROPOSED WORK

★**O., Cincinnati**—J. E. Root, dir. P. Wks. sewage disposal plant interceptor sewers, $2,800,000. H. H. Kranz, city engr.

BIDS ASKED

Bids Asked July 17

N. Y., Schenectady—Bd. Contr. & Supply, City Hall, sewer and appurtenances under west side of Eagle St., etc., reconstructing Livingston Ave. carriageway.

Bids Asked July 20

Mass., Gloucester—Sewage Bd., City Hall, Contr. 1 sewage pump st., Contr. 2, equip. for same, Rockland St. sewage pump sta. Fay, Spofford & Thorndike, 11 Beacon St., Boston, engrs.

Bids Asked July 21

N. Y., Lockport — Contr. 10, interceptor sewer. $90,000. PWA. Shoecraft, Drury & McNamee, Ann Arbor, Mich., engrs.

Bids Asked July 24

Mich., Detroit—M. J. O'Brien, chn. Wayne Co. Comn., sewage treatment plant equip. 15,000 lb. or more and 24,400 lb. or more gross rating trucks, etc. PWA. L. C. Smith, 3800 Barlum Tower, engr.

Bids Asked July 26

Calif., San Francisco—S. J. Hester, secy. Dpt. P. Wks., City Hall, San Francisco, sewage treatment plant at Hassler Health Home, near Redwood City. $70,000.

Bids Asked July 27

★**Ind., Hammond**—Sanitary Dist., J. E. Haney, chn., Div. 5(A) Little Calumet interceptor, Est, 10,500 ft. 27- to 36-in. gravity sewer, 3 automatic sewage regulator stations; Div. 5(B) Little Calumet interceptor, West, 8,500 ft. 18- to 30-in. gravity sewer, 4 automatic sewage regulator stations, PWA. Total est. $3,000,000.

Bids Asked July 31

Ind., Fort Wayne—Bd. P. Wks., R. G. Beams, member, Div. C, Contr. 14, sewage treatment plant, etc.; adv. ENR 7/13.

Bids Asked About August 1

O., Lebanon—Sewage disposal plant, $30,000. Fosdick & Hilmer, Union Trust Bldg., Cincinnati, engrs. CD 4/11—ENR 4/13.

CONTRACTS AWARDED

Calif., Fresno — Sanitary Sewers Floradora Home tract, etc., to J. Jurkovich, 3530 Balch Ave., **$2,963.** CD 7/5.

★**D. C., Wash.**—Dist. Comrs., District Bldg., Rock Creek Diversion Sewer, East Side, Sect. 2, to Joseph Lombardi Co., 715 Real Estate Trust Bldg., Phila., Pa., **$1,698,284.** CD 5/31—ENR 6/8.

Kan., Lincoln—Sewage disposal plant, **WPA, $50,000.** Paulette & Wilson, 1006 Kansas Ave., Topeka, engrs.

La., Baton Rouge—Police Jury East Baton Rouge Parish, 2 incinerator buildings, and equip. to Nye Odorless Incinerator Co., Macon, Ga., **$68,016.** Bids 6/27, awarded 6/27. CD 6/6—ENR 6/8.

Mass., Melrose—F. Ellis, supt. P. Wks., City Hall, vitr. clay pipe surface drains and storm sewers, various streets, own forces. **$40,000.**

Mich., Belleville and Rockwood — M. J. O'Brien, chn. Wayne Co. Comn., Detroit, 2 sewage treatment plants one at Huron River in Rockwood, other at Liberty and 1 Sts., Belleville, to Northeastern Constr. Co., 1813-4 St., Jackson, **$38,260.** Bids 5/29. CD 5/17.

Mich., Wahjamega—G. C. Dillman, state budget dir. Lansing, sewage treatment plant, sewers, pump sta. at Michigan State Hospital for Epileptics, to E. H. Marhoefer, Jr., Merchandise Mart, Chicago, Ill., **$81,922. PWA.** Bids 6/16. CD 6/6—ENR 6/8.

Minn., Bagley—Sewers and lift station, to Lametti & Lametti, 1319 Davern Ave., St. Paul, **$91,205.** Bids 5/12. CD 5/2—ENR 5/4.

★**Mo., University City**—At office City Clk., Sect. "A" River des Peres drainage works, necessary junctions, laterals, inlets, catch basins, manholes, etc., to Fred Schmitt Contg. Co., Inc., 650 Rosedale Ave., St. Louis, **$739,322.** Est. $743,976. Bids 6/28. CD 6/6—ENR 6/8.

Mo., University City (St. Louis P. O.)—A. J. Schopp, acting city clk., joint district sewer, Canton-Hanley Joint sewer dist., to Samuel Kraus Co., 649 Edmund Ave., St. Louis, **$98,792** on Plan B. Est. $119,460. Bids 6/21. CD 6/9—ENR 6/15.

N. J., Trenton—Hamilton Tmp. Comr., F. A. Priest, clk., 14 mi. 8- to 15-in. lateral sewers, Contr. 4, to Eastern Eng. Co., 4 N. North Carolina Ave., Atlantic City, **$278,400.** Bids 6/27. CD 6/16.

N. Y., Buffalo—Buffalo Sewer Auth., City Hall, storm and sanitary sewers, Pearl St. and Terrace, to McLain Constr. Corp., Hertel Ave. Est. **$25,000.** Bids 5/25. CD 5/12—ENR 5/18.

N. Y., Lockport—At office H. P. Glover, city clk., Constr. 9, main interceptor sewer.

(Contract Unit Prices continued from page 11)

WEST COLUMBUS STREET STORM SEWER				
1. 27-in. sew. pipe under 6 ft. cut	165 l. f.	3.60	4.00	4.00
2. 24-in. sew. pipe under 6 ft. cut	223 l. f.	3.20	3.50	3.45
3. 21-in. sew. pipe under 6 ft. cut	326 l. f.	3.00	2.50	3.30
4. 18-in. sew. pipe under 6 ft. cut	315 l. f.	2.10	2.10	2.15
5. 12-in. sew. pipe under 6 ft. cut	621 l. f.	1.50	1.40	1.50
6. 12-in. leads and conn	116 l. f.	2.00	2.00	2.10
7. 10-in. leads and conn	20 l. f.	1.85	1.50	2.00
8. Std. inlet-M.H. under 6 ft. deep	12 ea.	75.00	70.00	60.00
9. Brick on conc. pavmt. replac	19 s. y.	3.50	3.50	3.50
10. Spec. headwall and endwks	1 ea.	155.00	100.00	50.00
EAST SIDE INDUSTRIAL SANITARY SEWER				
1. 8-in. sew. pipe, under 6 ft. cut	30 l. f.	.90	1.10	1.20
2. 8-in. sew. pipe, 6–8 ft. cut	726 l. f.	1.10	1.30	1.35
3. 8-in. sew. pipe, 8–10 ft. cut	84 l. f.	1.55	1.50	1.60
4. 8-in. sew. pipe, 10–12 ft. cut	102 l. f.	1.90	1.60	1.85
5. 8-in. sew. pipe, 12–14 ft. cut	52 l. f.	2.25	1.80	2.50
6. 8-in. sew. pipe, 14–16 ft. cut	142 l. f.	2.90	2.30	3.35
7. 8-in. sew. pipe, 16–18 ft. cut	112 l. f.	3.35	2.60	4.35
8. 8-in. sew. pipe, 18–20 ft. cut	58 l. f.	3.50	2.90	5.35
9. 8-in. sew. pipe, 20–22 ft. cut	46 l. f.	4.10	3.20	7.35
10. 8-in. sew. pipe, 22–24 ft. cut	81 l. f.	6.00	5.00	7.35
11. Special manhole No. 2	1 ea.	1,210.00	975.00	1,050.00
12. 8 x 6-in. wyes	59 ea.	1.20	1.00	.75
13. Std. manholes, under 6 ft. deep	1 ea.	65.00	70.00	60.00
14. Std. manholes, 6–8 ft. deep	1 ea.	80.00	80.00	70.00
15. Std. manholes, 8–10 ft. deep	1 ea.	100.00	100.00	95.00
16. Std. manholes, 12–14 ft. deep	1 ea.	140.00	140.00	125.00
17. Std. manholes, 16–18 ft. deep	1 ea.	190.00	190.00	170.00
18. Std. manholes, 22–24 ft. deep	1 ea.	325.00	240.00	220.00
19. Brick on conc. replace	8 s. y.	4.50	3.50	3.50
PLEASANTVILLE ROAD STORM SEWER				
1. 27-in. sew. pipe, under 6 ft. cut	316 l. f.	3.75	4.00	4.00
2. 27-in. sew. pipe, 6–8 ft. cut	44 l. f.	4.25	4.20	4.50
3. 24-in. sew. pipe, under 6 ft. cut	166 l. f.	3.20	3.60	3.45
4. 24-in. sew. pipe, 6–8 ft. cut	86 l. f.	3.60	3.80	3.65
5. 24-in. sew. pipe, 8–10 ft. cut	68 l. f.	4.10	4.00	3.85
6. 21-in. sew. pipe, 6–8 ft. cut	110 l. f.	3.00	2.80	3.50
7. 21-in. sew. pipe, 8–10 ft. cut	254 l. f.	3.60	3.00	3.70
8. 15-in. leads and conn	52 l. f.	2.25	2.25	2.55
9. 12-in. leads and conn	84 l. f.	2.00	2.00	2.40
10. Std. inlet-M.H., under 6 ft. deep	1 ea.	75.00	75.00	60.00
11. Std. inlet-M.H., 6–3 ft. deep	2 ea.	85.00	85.00	70.00
12. Std. inlet-M.H., 8–10 ft. deep	1 ea.	105.00	105.00	95.00
13. Std. inlets	2 ea.	55.00	60.00	50.00
14. Drain and sewer replace	2 ea.	3.00	5.00	5.00
15. Special headwall and endwks	1 ea.	160.00	125.00	55.00
16. Rock excav	20 c. y.	8.00	5.00	4.00

HIGHWAYS, OREGON

OWNER: Oregon Highway Commission, Portland, Ore. R. H. Baldock, Salem, State Highway Engineer.

PROJECT: Grading and paving 1.16 miles of Oregon Coast Highway between Marshfield and new overpass at Bunker Hill, Coos County, near Marshfield, Ore.

CONDITIONS: Rail and highway transportation facilities available. Wage rates on project are: skilled, $1.50 per hr.; semi-skilled, 75c. per hr.; common labor, 50c. per hr.

BIDS: Seven bids were opened April 6, ranging from the contract low of $108,467 to $142,781.

LOW BIDDERS:

1. Roy L. Houck, Salem, Ore. (contract) $108,467
2. Jacobsen-Jensen, Portland, Ore 110,880
3. Leonard & Slate, Multnomah, Ore 112,138

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Clear and grub	L. S.	$1,000.00	$2,000.00	$2,500.00
2. Trench excav	750 c. y.	1.00	1.00	1.40
3. Excav., single class	127,000 c. y.	.18	.21	.19
4. Overhaul	66,000 y. sta.	.01	.01	.01
5. Truck haul	57,000 y. m.	.10	.15	.10
6. Finish roadbed and slopes	L. S.	300.00	300.00	300.00
7. Rounding cutbanks	4,000 l. f.	.08	.07	.10
8. Remove old pavmt	8,000 s. y.	.30	.30	.25
9. Slope paving	700 s. y.	2.00	.70	1.00
10. 12-in sewer pipe	300 l. f.	1.00	.90	.80
11. 18-in. sewer pipe	380 l. f.	2.00	1.80	1.50
12. Spec. sec., 12-in. S. pipe	5 ea.	4.00	2.60	3.00
13. Spec. sec., 18-in. S. pipe	5 ea.	4.00	4.30	3.00
14. 9-in. perf. corr. iron pipe	450 l. f.	.90	.80	1.00
15. 12-in. corr. iron pipe	30 l. f.	1.00	1.00	1.00
16. 24-in. corr. iron pipe	120 l. f.	2.30	2.30	2.25
17. 12-in. conc. pipe	640 l. f.	1.00	1.00	1.00
18. 18-in. conc. pipe	600 l. f.	2.25	2.20	1.75
19. Salvage culv. pipe	320 l. f.	.50	.30	1.00
20. Conc. catch basin	4 ea.	20.00	25.00	20.00
21. Conc. catch inlet	10 ea.	20.00	15.00	20.00
22. Conc. manholes	4 ea.	100.00	70.00	100.00
23. Conc. curbs and gutters	180 c. y.	20.00	15.00	20.00
24. Conc. walks	80 s. y.	1.75	1.50	1.75
25. Conc. driveway aprons	320 s. y.	2.25	2.00	2.25
26. Fog posts	50 ea.	2.00	2.50	3.00
27. 1-in. electr. conduit	950 l. f.	.20	.30	.24
28. Constr. curb recesses	L. S.	100.00	50.00	160.00
29. Conc. light pedestals	8 ea.	10.00	10.00	25.00
30. 3-in. mat'l. in sub-base	7,500 c. y.	1.85	1.90	2.10
31. 1½-in. mat'l. in base	400 c. y.	2.00	2.60	2.10
32. ¾-in. mat'l. in shoulders	800 c. y.	2.50	2.60	2.60
33. ¼-in. mat'l., cushion crse	450 c. y.	2.50	2.60	2.60
34. ¼-in. mat'l., cushion crse	200 c. y.	2.50	2.70	2.60
35. Filler	400 c. y.	.40	.30	.30
36. Hauling filler	400 y. mi.	.10	.20	.20
37. Port. cem. conc. pavmt.	18,400 s. y.	2.05	1.84	2.02
38. ¾-in. exp. joints	1,900 l. f.	.20	.16	.18
39. ½-in. exp. joints	850 l. f.	.15	.14	.14
40. Contraction joints	8,600 l. f.	.03	.02	.02
41. Dowels	8,800 ea.	.14	.10	.12
42. Tie bars	9,000 lb.	.06	.03	.055
43. Min. aggregate	100 c. y.	4.00	3.50	5.00
44. Road oil (SC-6)	10 ton	46.00	40.00	40.00
45. Cl. A asph. conc	320 ton	7.00	8.00	8.00
46. Cutback asph. wearing surf	100 ton	6.00	8.00	8.00
47. Provision for traffic	L. S.	1,000.00	1,500.00	1,000.00

HIGHWAY BRIDGES CALIFORNIA

OWNER: California State Highway Department, C. H. Purcell, State Highway Engineer, Los Angeles and Sacramento.

PROJECT: Construction of 4 highway bridges, Los Angeles County, Arroyo Seco Parkway, Avenue 52 and Herman Avenue. Two bridges over Arroyo Seco Parkway, and two over Arroyo Seco Channel. Paving and grading of approaches included in project.

CONDITIONS: It is necessary for contractor to take precautions to protect WPA channel improvement job now in progress in vicinity. All materials to be furnished by contractor. Labor rates: skilled, $1.375 per hr.; semi-skilled, $1.00; and common, 62½c per hr. Stipulated contract time, 275 working days.

BIDS: Twelve bids were received June 15, 1939, ranging from the low of $191,601 to $230,754.

LOW BIDDERS:

1. J. E. Haddock, Ltd., Pasadena, Calif. $191,601
2. United Concrete Pipe Corp., Los Angeles, Calif. 199,342
3. Mittry Bros. Constr. Co., Los Angeles, Calif. .. 200,328

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Remov. conc	1,210 c. y.	$3.90	$4.00	$2.50
2. Clear and grub	L. S.	300.00	2,000.00	250.00
3. Watering	1,300 M gal.	.90	.70	1.00
4. Rdway. excav	31,000 c. y.	.206	.27	.22
5. Struct. excav	3,280 c. y.	.65	.60	1.00
6. Struct. backfill	5,150 c. y.	.60	.40	.60
7. Overhaul	96,000 sta. y.	.01	.005	.01
8. Import top soil	2,900 c. y.	.50	.75	.80
9. Prepare subgrade	31,000 s. y.	.10	.12	.10
10. Finish roadway	L. S.	600.00	750.00	1,000.00
11. Liq. asphalt, SC-2, prime	11 ton	10.00	8.00	10.00
12. Aggr. plant mix. surf	1,900 ton	1.70	1.90	2.00
13. Liq. asphalt 90–95 mix. surf	100 ton	7.25	7.00	7.00
14. Asph. emulsion (seal)	5 ton	20.00	20.00	20.00
15. Asph. conc	3,800 ton	2.00	2.25	2.25
16. Cl. B. Port. cmt. conc., pave	4,010 c. y.	5.00	5.60	6.50
17. Pavement dowels	7,200 ea.	.11	.10	.12
18. Reinf	734,000 lb.	.035	.034	.038
19. Mesh reinf	850 s. y.	.25	.25	.30
20. Cl. A. Port. cmt. conc., struct	4,342 c. y.	16.50	16.30	14.50
21. Adj. manholes to grade	15 ea.	10.00	10.00	15.00
22. Class A Port. cmt. conc. (curb, gutter, sidewalk)	1,815 c. y.	9.50	10.00	11.50
23. Curb armor	550 l. f.	1.00	1.00	1.25
24. Lamin. guard rail	3,770 l. f.	.90	1.00	1.00
25. Pipe handrail	300 l. f.	2.15	1.89	2.00
26. Steel railing	728 l. f.	6.15	6.40	7.70
27. Copper strips	2,700 lb.	.35	.30	.375
28. 1½-in. sprinkl. sys. galv. steel pipe	1,100 l. f.	.33	.30	.25
29. 2-in. sprinkl. sys. galv. steel pipe	3,100 l. f.	.36	.36	.40
30. Reconst. manholes, type A	4 ea.	90.00	100.00	100.00
31. Electr. equipment	L. S.	7,300.00	7,400.00	7,900.00
32. Misc. items of work	L. S.	1,000.00	2,000.00	1,300.00

Sewers, etc. (Continued)

Olcott St., etc., to Connelly Bros., 5 Park Ave., Buffalo. Est. **$320,000. PWA.** Bids 6/23. CD 6/8—ENR 6/15.

N. Y., North Tarrytown — Bd. Trustees, sewage treatment plant, to Knight & Timoney, Inc., 4197 Park Ave., New York, **$199,545**; outfall sewer, to Spearin, Preston & Burrows, 30 Church St., New York, **$22,740.** PWA. Bids 6/2. CD 5/18—ENR 5/25.

N. Y., Rockville Centre—Bd. Village trustees, general contract Contr. B, sewage pump. sta., to Gifford Constr. Co., 161-10 Jamaica Ave., Jamaica, **$55,700*****Contr. D, plumbing work, to Jamaica Utilities, Inc., 125-03 101 Ave., Richmond Hill, **$825*****Contr. E, electrical work, to D. E. Electric Co., Inc., 82 Chestnut Ave., **$1,520.** Grand total $58,045. Bids 4/19. CD 4/5—ENR 4/6.

N. Y., Syracuse—General imprvs. to and rehabilitation of sewage disposal plants and pump house, **WPA.** Over **$100,000.**

O., Steubenville—E. C. Boyd, dir. Pub. Serv., sanitary sewers in Buena Vista Sub Dist. 2, Contr. 9 Sunset Blvd., Beatty Park Sanitary Sewer Dist. 1, to Del Constr. Co., 608 N. Seventh St., **$54,963,** est. $71,000. Contr. 8, sanitary sewers in Waggoner and McEldowney Richards Sub Dist. of Sunset Blvd. Beatty Park Sewer Dist., to General Constr. Co., 337 S. High St., Columbus, **$23,545,** est. $30,000, H. P. Jones & Co., 2nd Natl. Bank Bldg., Toledo, engrs. Bids 6/29.

Pa., Pittsburgh—Contr. 3, Sect. 2, Columbus Ave. and Bates St. drainage basin, to Middle West Constr. Co., 6450 Frankstown Ave., **$224,712.** Bids 5/23. CD 5/17.

Pa., Sharon—Contr. 8 N. Water St. sewage ejector station, appurtenances, and Contr. 9, Wheeler St. sewage pump. sta., appurtenances, to E. H. Dobson Co., 145 Westland Dr., Pittsburgh, **$11,840** and **$19,360** respectively***. Contr. 10, generator sta., appurtenances, to Johnston & McIntyre, 191 W. Budd St., Sharon, **$8,400.** Grand total $39,600. **PWA.** Bids 6/23. CD 6/6—ENR 6/8.

Tex., Bartlett—R. G. Miller, mayor, sanitary sewage distr. sys., 3 filter beds, cement, vitr. pipe, manhole frames and covers, lamp holes, brick, day labor, **$45,000.** Municipal Eng. Co. c/o owner and Burt Bldg., Dallas, engrs.

Tex., Brownsville—R. B. Renfro, mayor, approx. 50,000 lin. ft. sanitary vitr. and concrete sewer lines, "Purchase and Hire" plan. **$101,421. WPA.**

†**W. Va., Ceredo-Kenova**—U. S. Eng., Chesapeake & Ohio Bldg., Huntington, sewerage and storm water pumps, Lot 1, to Sterling Pump Corp., Hamilton, O. **$7,360;** Pomona Pump Co., Pomona, Calif. **$27,567.** Bids 6/1. awarded 6/28. CD 5/2—ENR 5/4.

Wyo., Sheridan—7,000 lin. ft. vitr. clay sewer, etc., to **C.** Pelesky, Sheridan. Est. **$25,000.** Subject to **PWA** approval. Bids 6/22. CD 6/14.

BRIDGES, GRADE CROSSINGS

PROPOSED WORK

Missouri—State Hy. Comn., Jefferson City, 264 ft. steel tied arch span, two 192 ft. steel truss span, bridge over Merramee River, St. Louis-Hillsboro Rd., Route 21TR Project FA 806 C1, St. Louis and Jefferson Counties; fourteen 50 ft. I-beam span bridge over Buller Lake, St. Louis-Hillsboro Rd., Route 21TR, Project FA 806 C1, St. Louis Co.; two 10 ft. rein.-con. slab span bridge, culvert type, over Foster Creek, Route 25 to Cape Girardeau Rd., Route SZ, Project FAS 746 B1, Cape Girardeau Co.; one 75 ft. steel plate girder span, three 45 ft. and one 40 ft. I-beam span bridge, etc. over Frisco R.R. tracks, Willow Springs-Douglas Co. Rd., Route SH Project FAGM 2D1, Howell Co.; two 14½ ft. concrete slab span culvert type bridge over Dry Branch, Route 54, Project FA 264 B4, 60 ft. I-beam span concrete abutments bridge over Robinson Creek, Route 54, Project FA 264 H1, two 10 ft. concrete slab span box culvert type bridge over stream, Route 54, Project FA 264 H1, all foregoing on Jefferson City-Nevada Rd., Vernon Co. C. W. Brown Jefferson City, hy. engr.

New Jersey—E. D. Sterner, comr. State Hy. Dpt., Trenton, rejected bids July 7, bridge and approaches overpassing Pennsylvania, Reading, Seashore Lines, Bridgeport, Gloucester Co. Will readvertise. CD 6/19—ENR 6/22.

★**New York**—State Dpt. P. Wks., A. W. Brandt, supt., Albany, Groveland crossing of Delaware, Lackawanna and Western R. R., Groveland, Livingston Co. $292,000; Willow St. crossing of Delaware, Lackawanna & Western R. R., Johnson City, Broome Co., $130,000; Lehigh Valley R. R. crossing elimination Alden-Crittenden County Rd., Alden, Erie Co., $75,000; grade crossing eliminations of New York Central R. R., Walden Ave. and Union Rd., Lehigh Valley R. R., Erie and Delaware-Lackawanna & Western R. R. crossing elimination, Union Rd., Cheektowaga, Erie Co., $800,000; Pennsylvania R. R. Co., and Indian Church Rd. crossing elimination, West Seneca, Erie Co., $320,000; Erie R. R. crossing elimination Wellsville-Andover, Andover, Allegany Co. $100,000; Erie R. R. crossing elimination, at Howells, Howells Center and Howells Lower crossings, Wallkill, Orange Co., $136,000. **Maturity later this year.** Bids to be asked by State Div. Hys.

★**O., Cincinnati**—J. E. Root, dir. P. Wks., grade crossing at Erie Ave. and Brotherton Rd. crossing of Pennsylvania R. R., $241,518; Hartwell Ave. crossing of Big Four R. R., $117,827; Hartwell Ave. crossing B. & O. R. R., $115,548; St. Bernard-Elmwood Place-Rencomb Junction crossing Big Four R. R. $100,000. H. H. Kranz, city engr.

BIDS ASKED

Bids Asked July 17

Mass., Winchendon—Rein.-con. rigid frame memorial bridge, Whitney Pond, Glen Allen Rd. $25,000. J. R. Worcester & Co. 79 Milk St., Boston, engrs. CD 6/5—ENR 6/8.

Que., Rimouski—C. B. Brown, ch. engr., Canadian National Ry., 360 McGill St., Montreal, rein.-con. subway Balzill St. $50,000.

Bids Asked July 18

Neb., Auburn—Nemaha Co., L. V. Jones, clk., bridges.

Bids Asked July 20

Ill., Geneva—Kane Co., 3 span rein.-con., steel viaduct over I. C. R. R. with 0.2083 mi. approaches, Sect. 110 B-3 MFT. G. H. Baker, Centennial Bldg., Springfield, State engr. co. roads and city streets.

Virginia—State Dpt. Hys., Richmond, 288 ft. bridge, Route 3, Culpeper Co.; 172 ft. bridge Route 460, Southampton Co.; 437 ft. bridge, approaches Route 189, Southampton and Nansemond Counties.

Bids Asked July 25

Kansas—State Hy. Dpt., Topeka, 2-12x12x32 ft. rein.-con. box culvert, FA 295 C; 4-8x3x32 ft. rein.-con. box, FA 295 C; 2-12x12x57 ft. rein.-con. box FA 295 C; 3-35 ft. rein.-con. deck girder spans, FA 295 C; 5-45 ft. rein.-con. deck girder span, FA 295 C, 9-8x5x32 ft. rein.-con. box, FA 295 C, all foregoing Hodgeman Co.; 34-39-45-39-34 ft. continuous I-beam spans, FA 463 D, 4-8x6x32 ft. rein.-con. box, FA 463D, 3-7x4x32 ft. rein.-con. box, FA 463 D, 4-10x9x32 rein.-con. box, FA 463D, all foregoing Greeley Co.

Bids Asked July 26

California—C. H. Purcell, state hy. engr., P. Wks. Bldg., Sacramento, rein.-con. slab bridge, grade blanket with imported borrow and apply prime and seal coat 0.5 mi. hy. Mendocino Co.; repairing by removing superstructures and replacing with rein.-con. 6 bridges over Pit River and overflows south of Bieber, consisting of thirty-nine 30 ft. spans, Lassen Co.

Bids Asked July 27

California—C. H. Purcell, engr., State Hy. Dpt., State Bldg., Los Angeles, rein.-con. bridge with steel stringers over Santa Ana River, south of Colton, San Bernardino Co.; seventeen 50 ft. span rein.-con. slab and girder bridge having two 15 ft. cantilever spans, ¼ mi. southeast of Piru, Ventura Co.

Bids Asked July 28

New Jersey—E. D. Sterner, comr. Hy. Dpt., Trenton, river pier shafts of Raritan River Bridge on S.H. Route 35, Sect. 14, Boro Sayreville and Woodbridge Twp., Middlesex Co., PWA.; adv. ENR 7/13.

Bids Asked August 3

Washington and Oregon—Wauna Toll Bridge Co., Baker Bldg., Walla Walla, raising Bridge of Gods, 45 ft., grading approaches and enlarging piers, over Columbia River at Cascade Locks, Ore., between Washington and Oregon. $450,000. C. G. Huber, Porter Bldg., Portland, Ore., engr.

Bids Asked about August 10

Pa., Sugarloaf Twp.—Controller Luzerne Co., Court House, steel, concrete hy., bridge 544, Sugarloaf Twp., also bituminous on native stone paving portion Fern Brook-DeMunds County Hy., Dallas Twp. $26,000 plus. CD 4/13—ENR 4/20.

Bids Asked August 15

Oklahoma—State Hy. Dpt., Oklahoma City, 240 ft. concrete I-beam bridge Stillwater, Payne Co., $21,148; 288 ft. bridge, Garber, Garfield Co., $22,289; 660 ft. pony truss span bridge on concrete pier over Salt Fork River, Garber, Garfield Co., $48,455; 240 ft. pony truss span bridge on concrete pier, Kelleyville, Creek Co., $24,989; 526 ft. I-beam span bridge, Alluwee, Nowata Co., $44,217; 144 ft. rein.-con. bridge, Warner, Muskogee, $12,640. V. T. Moon, Capitol, Oklahoma City, engr. CD 7/7.

Bids Asked January 10

La., Bedford—Taylor Co., 3 bridges. S. R. Weir, co. engr.

Bids Asked

O., Youngstown—Trumbull and Mahoning Counties, bids in about 60 days, new steel, concrete bridge replacing covered bridge over Mahoning River in Pricetown Rd. ½ mi. below Lake Milton dam, $40,000. WPA. H. Dittmer, Warren, Trumbull Co. engr. T. Romanick, Youngstown, Mahoning Co. engr.

Pa., Pittsburgh—F. M. Roessing, dir. P. Wks., Contr. 3, viaduct, Herrs Island. Total est. $54,000. J. J. Croak, city engr.

LOW BIDDERS

★**New Jersey**—E. D. Sterner, comr., State Hy. Dpt., Trenton, July 7, 18,435,000 lbs. steel in superstructure Raritan River bridge, near Perth Amboy, from Bethlehem Steel Co., S and Lehigh Sts., Bethlehem, Pa., $1,708,820, and from American Bridge Co., 208 S. LaSalle St., Chicago, Ill., $1,759,901. CD 6/13—ENR 6/15.

★**N. Y., Brooklyn**—Dpt. Parks, R. Moses, comr., Arsenal Bldg., Central Park, 64 St. and 5 Ave., New York, Contr. MS-39-3C, Shore Parkway, Mill Basin, bridge superstructure, from Reiss & Weinsier, Inc., 105 Court St., $668,399. CD 6/22—ENR 6/29.

CONTRACTS AWARDED

Alabama — State Hy. Dpt., Montgomery, 0.049 mi. overhead, Washington Co., to Hancock Co., 310 St. Michael St., Mobile, **$26,084.** Bids 6/2. Rejected bids 6/2 steel superstructure Tallahassee Bridge. No action as yet on concrete deck. CD 5/29.

Calif., San Jose—Supervs. Santa Clara Co., San Jose, rein.-con. bridge over San Jose-Alamaden Rd., near Lincoln Ave., intersection over Guadalupe Creek in Superv. Dist. 4, to E. W. Heple, 494 Delmas Ave., **$26,146.**

Colorado—State Hy. Dpt., Denver, 4 bridges, approaches, 0.583 mi. S. Hy. 91, Summit Co., to F. M. Kenney, 56 Steele St., Denver, **$26,573.** Bids asked and awarded 6/29. CD 6/23.

Conn., Guilford—New York, New Haven & Hartford R.R. Co., E. E. Oviatt, ch. engr., New Haven, 3 span, steel, concrete bridge, West River, to Mariani Constr. Co., 222 Forbes Ave., New Haven. Est. **$25,000** or more.

Illinois—State Dpt. P. Wks. & Bldgs. Div. Hys., Centennial Bldg., Springfield, substructure, Sect. 201 B, Wood River Bridge, Madison Co., and rein.-con. floor, sidewalks, painting structural steel, for same, Sect. 201 D, to Fleming & Kilgo Constr. Co., 214 E. Bway., Alton, **$9,749** and **$10,896** respectively***steel truss I-beam superstructure same, Sec. 201 E, to H. H. Hall Constr. Co., 211 S. 15 St., East St. Louis, **$6,708*****steel truss and I-beam superstructure for same, fabrication, del., f.o.b. Alton, Sect. 201 F, and 2 I-beam superstructure for bridge Whiteside Co., Sect. 110F-1, to American Bridge Co., 20 S. LaSalle St., Chicago, **$18,617** and **$14,918** respectively*** 2 rein.-con. substructures, 2 I-beam superstructures, bridge, Whiteside Co., Sect. 110-B1, to Shappert Engr. Co., 112 W. Pleasant St., Belvidere, **$50,125*****I-beam bridge over Sugar Creek FA Route 5, McLean Co., to Porter, McCulley Constr. Co., 105 N. Center St., Lexington, **$31,395*****bituminous surfacing 1 mi. S.A. Route 10, north of Arrowsmith, to Brent & Son, 201 Grove Ave., Bloomington, **$1,440***** I-beam bridge and paved approaches, Kendall Co., to West Counties Constr. Co., 105 S. York St., Elmhurst, **$104,853*****three I-beam bridges for Strawn Run, Strawn Creek, Marshall Co., to A. Olson Constr. Co., 180 W. 1 St., Waterloo, Ia., **$38,435.** Grand total $287,136. Bids 6/2, awarded 6/27. CD 5/24.

Ill., Chicago—Substructure for viaduct over S. Western Ave. at S. Western Blvd. and W. 33rd St., to M. J. McDermott & Co., 105 S. Dearborn St., **$149,828.** Bids 5/1, awarded 6/26.

Ill., Joliet—Will Co., rigid frame bridge Sect. 47B-15D, to Joliet Bridge & Constr. Co., Joliet, **$10,278;** 24 ft. rein.-con. slab bridge on Sect. 102B-15D, to C. F. Pfaff, Frankfort, **$5,603.** Bids 6/22. CD 6/19.

Ill., Springfield—Sangamon Co., 3 steel W.F. beam bridges, to Sangamon Constr. Co., 523 Illinois Bldg., **$38,004.** Bids 4/7, awarded 7/1. CD 4/4.

Minnesota—State Hy. Dpt., St. Paul, Bridge 5853, Clay Co., to E. G. Carlson Co., Barnesville, **$23,679*****Bridge 5854, Clay Co., to J. A. Jardine Bridge Co., Fargo, N. D., **$37,643***** Bridge 5807, Houston Co., to Bingham & Dresser, Winona, **$33,407*****Bridge 5510, Houston Co., to Pederson Bros., Montevido, **$25,749.** Grand total $120,478. Bids 6/16. CD 6/1—ENR 6/8.

Minnesota—State Hy. Dpt., St. Paul, Bridge 5273, Carlton Co., to E. W. Coons Co., Hibbing, **$163,815;** Bridge 5529, Hennepin Co., to Industrial Contg. Co., 3050 4 Ave., Minneapolis, **$43,599.** Bids 6/23. CD 6/6—ENR 6/8.

Missouri — State Hy. Dpt., Jefferson City, 366 ft. bridge over St. Louis, San Francisco R. R., Barton Co., to Maxwell Constr Co., Columbus, Kan., **$27,412;** bridge over Meridith Creek, Franklin Co., to O'Dell & Riney Constr. Co., Inc., Hannibal, **$6,679.** Bids 6/9 and 4/21 respectively. CD 5/23 and 4/5 respectively—ENR 5/25 and 4/13 respectively.

Missouri—State Hy. Dpt., Jefferson City, 92 ft. bridge over Main Ditch Dist. 23, Charleston-Wyatt Rd., Route 60, Proj. FA 7A2, Mississippi Co., to Skrainka Constr. Co., 7173 Delmar St., St. Louis, **$9,526.** Bids 6/9. CD 5/23—ENR 5/25.

New York—Dpt. Parks, R. Moses, comr., Arsenal Bldg., Central Park, 5 Ave. and 64 St., New York, Contr. 39-15, Cross Island Parkway, bridge, Laurelton Parkway, paving, drainage structures, etc. with connections to Southern State Parkway, Queens Boro, also Nassau Co., to Tully & DiNapoli, Inc., 30-11 12 St., Long Island City, **$413,432.** Bids 6/12. CD 6/1—ENR 6/8.